# LOW-POWER HIGH-PERFORMANCE INTEGRATED CIRCUIT AND RELATED METHODS

## ABSTRACT OF THE INVENTION

An integrated circuit is provided which includes a multi-state circuit with a first PMOS transistor and a first NMOS transistor. In an active mode, the multi-state circuit is operable to switch between a first state in which the first PMOS transistor is turned on and the first NMOS transistor is turned off and a second state in which the first PMOS transistor is turned off and the first NMOS transistor is turned on. A power source NMOS transistor has a drain connected to a supply voltage terminal and has a source connected to a source of the first PMOS transistor. A power source PMOS transistor has a drain connected to a an effective ground terminal and has a source connected to a source of the first NMOS transistor.